REMARKS

Claims 21 and 22 stand rejected under 35 USC 112, second paragraph, because the Examiner is unable to determine what the phrase "alternately laminated" means. Specifically, the Examiner is unable to determine how the plies are affixed. Claim 21, which contains this phrase, has been amended to remove this phrase and to indicate that the carbon fiber reinforcing material and the non-woven fabric are "located alternately."

Claims 1-3 have been amended to claim a complex fiber reinforcing material comprising a "woven fabric or a stitch cloth of carbon fibers" and "a non-woven fabric comprising short fibers including organic fibers." This amendment is supported by the specification on page 11, line 16 through page 12, line 5 and on page 16, line 19 through page 17, line 3. As discussed herein, none of the references cited by the Examiner disclose a complex fiber reinforcing material comprising the claimed woven fabric and non-woven fabric. Further, the references cited by the Examiner fail to disclose improving impact resistance by using the claimed non-woven fabric as described by applicants in the specification (see, for example, specification page 50, lines 3-7).

Claim 1 is rejected under 35 USC 102(b) as being anticipated by JP 08134757 (hereinafter JP '757). Applicants have included a complete translation of JP '757 with this amendment for the Examiner's review. As described in the translation, JP '757 discloses a complex that includes a woven material and a non-woven material made from inorganic fibers (see JP '757, par. 6). Claim 1 has been amended to claim a reinforcing material made from a woven fabric or stitch cloth made from non-organic "carbon fibers." Since JP '757 does not disclose a woven material made from the claimed non-organic "carbon fibers," the rejection of claim 1 should be withdrawn.

Claim 3 stands rejected under 103(a) as being unpatentable over Nishimura. Nishimura only discloses a complex made from multiple layers made from non-organic fibers. Nishimura does not disclose using non-woven fabrics made from organic fibers, as claimed by applicants. As described in the specification, this non-woven fabric organic layer improves the impact

resistance of the resultant complex. Nishimura does not describe a non-woven fabric with improved impact resistance. Since Nishimura does not disclose the complex as claimed, this rejection of claim 3 should be withdrawn.

In addition, the Examiner admits that Nishimura fails to disclose the percent by weight low melting point fibers as claimed. However, the Examiner argues that it would have been obvious to one of ordinary skill in the art to select the claimed amount of melting point fibers. The Examiner makes this assertion without any documented proof that using the claimed amount of low melting point fibers would have been known. As stated in *In Re Lee*, 61 USPQ2d 1430, 1434, 1435 (Fed. Cir. 2002), deficiencies in the cited references cannot not be remedied by reference to what is "basic knowledge" or "common sense." The Examiner must provide authority for such assertions. *See id.*

Claim 3 also stands rejected under 103(a) over JP3-234522 (hereinafter the JP '522 reference). A full translation of this patent accompanies this amendment. As with the Nishmura reference, the Examiner admits that this reference does not disclose the percent by weight low melting point fibers as claimed, but states that it would have been obvious to select the claimed amount of melting point fibers. As described in the specification, the non-woven fabric containing organic fibers and the claimed amount of low-melting point fibers improves the impact resistance of the resultant complex. JP'522 does not describe improving impact resistance by using a non-woven fabric layer. Accordingly, the characteristics of this sheet, such as the claimed amount of low-melting point fibers, would not be obvious absent applicants disclosure. In addition, since the Examiner has failed to provide any authority for the assertion that the claimed amount of low-melting point fibers would be obvious, this rejection should be withdrawn.

Claims 3, 8, 9 and 10 stand rejected under 35 USC 103(a) as being unpatentable over Nishimura in view of Hayes. Claims 3, 8, 9 and 10 all claim a complex fiber reinforcing material including a woven fabric made from carbon fibers and a non-woven fabric made from organic fibers. As described in the specification, the non-woven fabric claimed by applicants

improves impact resistance of the resulting complex. Neither Nishimura nor Hayes discloses the claimed non-woven fabric with improved impact resistance. As described above, Nishimura does not disclose using non-woven fabrics made from organic fibers as claimed. In addition, neither Nishimura nor Hayes describes a non-woven fabric with the claimed amount of low melting point fibers. Accordingly, the combination of Hayes and Nishimura would not produce the claimed complex. For the foregoing reasons, the rejection of claims 3, 8, 9 and 10 should be withdrawn.

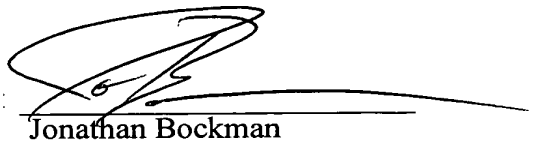
Claims 1, 2, 4-7, 12-19 and 21-25 stand rejected under 35 USC 103(a) as being unpatentable over Nishimura in view of JP '757. Claims 1, 2, 4-7, 13-19 and 21-25, as amended all claim a complex fiber reinforcing material including a woven fabric made from carbon fibers and a non-woven fabric made from organic fibers. The claimed non-woven fabric improves the impact resistance of the resulting complex. Neither Nishimura nor JP '757 disclose the combination of a carbon fiber woven fabric and an organic fiber non-woven fabric. Absent applicants disclosure that the impact resistance of the complex can be improved by using the claimed non-woven fabric, it would not be obvious to combine Nishimura with JP '757 to produce a carbon fiber woven fabric and an organic fiber non-woven fabric. In addition, neither Nishimura nor Hayes describes a non-woven fabric with the claimed amount of low melting point fibers. For the foregoing reasons claims 1, 2, 4-7, 13-19 and 21-25 should be allowed.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment.

The attached page is captioned "**VERSION WITH MARKINGS TO SHOW CHANGES MADE**". In the event that the transmittal letter is separated from this document and the Patent and Trademark Office determines that an extension and/or other relief is required, applicants petition for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. 360842006800.

Respectfully submitted,

Dated: March 26, 2003

By: 

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Amend claims 1, 2, 3, 4, 5, 6, 7, 13, 14, 15, 16, 18 and 21 as follows:

1. A complex fiber reinforcing material comprising a sheet-formed carbon fiber reinforcing material comprising a woven fabric or a stitch cloth of ~~reinforcing~~ carbon fibers, and a non-woven fabric comprising short fibers including organic fibers, wherein the non-woven fabric is laminated onto at least one side of the carbon fiber reinforcing material and wherein the short fibers pass through the fiber reinforcing material to integrate the carbon fiber reinforcing material with the non-woven fabric.

2. A complex fiber reinforcing material comprising a sheet-formed carbon fiber reinforcing material comprising a woven fabric or a stitch cloth of carbon ~~reinforcing~~ fibers, and a non-woven fabric including organic fibers laminated on at least one side of the carbon fiber reinforcing material, wherein the non-woven fabric is integrated with the fiber reinforcing material by a pressure sensitive adhesive.

3. A complex fiber reinforcing material comprising a sheet-formed carbon fiber reinforcing material comprising a woven fabric or a stitch cloth of carbon ~~reinforcing~~ fibers, and a non-woven fabric including organic fibers laminated on at least one side of the carbon fiber reinforcing material, wherein the non-woven fabric contains 5 to 50% by weight of low-melting-point fibers, and the carbon fiber reinforcing material is integrated with the non-woven fabric by heat bonding.

4. A complex fiber reinforcing material according to any one of Claims 1 to 3, wherein the side of the ~~reinforcing~~ carbon fiber yarns of the carbon fiber reinforcing material is 550 to 270000 decitrex, and the number of filaments per carbon ~~reinforcing~~ fiber is 1000 to 400000.

5. A complex fiber reinforcing material according to any one of Claims 1 to 3, wherein the carbon ~~reinforcing~~ fibers of the carbon fiber reinforcing material have a yarn size of 550 to 23000 decitex.

6. A complex fiber reinforcing material according to any one of Claims 1 to 3, wherein weight per unit are of the carbon fiber reinforcing material is 100 to 2000 g/m^2.

7. A complex fiber reinforcing material according to any one of Claims 1 to 3, wherein the carbon fiber reinforcing material comprises a woven fabric having a cover factor of 95% or more.

13. A complex fiber reinforcing material according to any one of Claims 1 to 3, wherein the carbon fiber reinforcing material comprises a uni-directional woven fabric comprising ~~reinforcing~~ carbon fibers yarns oriented in a length direction of the material, and auxiliary yarns thinner than the carbon fiber ~~reinforcing~~ yarns and oriented in a width direction of the material, to form a woven structure.

14. A complex fiber reinforcing material according to Claim ~~12~~ 13, wherein the carbon fiber ~~reinforcing~~ yarns are oriented in the length direction at intervals of 0.1 to 5 mm in ~~the uni-directional sheet or~~ uni-directional woven fabric.

15. A complex fiber reinforcing material according to any one of Claims 1 to 3, wherein the carbon fiber reinforcing material comprises a bi-directional woven fabric comprising

~~reinforcing~~ carbon fiber yarns oriented in a length direction and a width direction of the material to form a woven structure.

16. A complex fiber reinforcing material according to Claim 15, wherein the carbon fiber ~~reinforcing~~ yarns of the bi-directional woven fabric, which are oriented in at least one of the length direction and the width direction, are flat carbon fiber ~~reinforcing~~ yarns having a width in the range of 4 to 30 mm, and a thickness in the range of 0.1 to 1.0 mm.

18. A complex fiber reinforcing material according to any one of Claims 1 to 3, wherein the ~~reinforcing fibers are~~ carbon fibers have a tensile modulus of 200 Gpa or more, and a tensile strength of 4.5 Ga or more.

21. A preform comprising a laminate of a plurality of the complex fiber reinforcing material according to any one of Claim 1 to 3, wherein the plurality of the complex fiber reinforcing material are laminated such that the carbon fiber reinforcing material and the non-woven fabric are located alternately ~~laminated~~.

1. A complex fiber reinforcing material comprising a sheet-formed carbon fiber reinforcing material comprising a woven fabric or a stitch cloth of ~~reinforcing~~ carbon fibers, and a non-woven fabric comprising short fibers including organic fibers, wherein the non-woven fabric is laminated onto at least one side of the carbon fiber reinforcing material and the short fibers pass through the fiber reinforcing material to integrate the carbon fiber reinforcing material with the non-woven fabric.

2. A complex fiber reinforcing material comprising a sheet-formed carbon fiber reinforcing material comprising a woven fabric or a stitch cloth of carbon ~~reinforcing~~ fibers, and a non-woven fabric including organic fibers laminated on at least one side of the carbon fiber reinforcing material, wherein the non-woven fabric is integrated with the carbon fiber reinforcing material by a pressure sensitive adhesive.

3. A complex fiber reinforcing material comprising a sheet-formed carbon fiber reinforcing material comprising a woven fabric or a stitch cloth of carbon ~~reinforcing~~ fibers, and a non-woven fabric including organic fibers laminated on at least one side of the carbon fiber reinforcing material, wherein the non-woven fabric contains 5 to 50% by weight of low-melting-point fibers, and the carbon fiber reinforcing material is integrated with the non-woven fabric by heat bonding.

4. A complex fiber reinforcing material according to any one of Claims 1 to 3, wherein the size of the ~~reinforcing~~ carbon fiber yarns of the carbon fiber reinforcing material is 550 to 270000 decitex, and the number of filaments per carbon ~~reinforcing~~ fiber is 1000 to 400000.

5. A complex fiber reinforcing material according to any one of Claims 1 to 3, wherein the carbon ~~reinforcing~~ fibers of the carbon fiber reinforcing material have a yarn size of 550 to 23000 decitex.

6. A complex fiber reinforcing material according to any one of Claims 1 to 3, wherein weight per unit area of the carbon fiber reinforcing material is 100 to 2000 g/m^2.

7. A complex fiber reinforcing material according to any one of Claims 1 to 3, wherein the carbon fiber reinforcing material comprises a woven fabric having a cover factor of 95% or more.

8. A complex fiber reinforcing material according to any one of Claims 1 to 3, wherein the non-woven fabric contains low-melting-point fibers comprising a thermoplastic polymer having a low melting point.

9. A complex fiber reinforcing material according to any one of Claims 1 to 3, wherein the non-woven fabric comprises conjugate fibers comprising a core at a ratio of 30 to 70% of the sectional area of the conjugate fiber.

10. A complex fiber reinforcing material according to

Claim 9, wherein each of the conjugate fibers comprises the core comprising nylon 6 or nylon 66, and the sheath comprising nylon copolymer.

11. A complex fiber reinforcing material according to any one of Claims 1 to 3, wherein weight per unit area of the non-woven fabric is 5 to 30 g/m^2.

~~12. A complex fiber reinforcing material according to any one of Claims 1 to 3, wherein the fiber reinforcing material comprises a uni-directional sheet comprising reinforcing yarns oriented in a length direction of the material.~~

13. A complex fiber reinforcing material according to any one of Claims 1 to 3, wherein the carbon fiber reinforcing material comprises a uni-directional woven fabric comprising ~~reinforcing~~ carbon fiber yarns oriented in a length direction of the material, and auxiliary yarns thinner than the carbon fiber ~~reinforcing~~ yarns and oriented in a width direction of the material to form a woven structure.

14. A complex fiber reinforcing material according to Claim ~~12~~13, wherein the carbon fiber ~~reinforcing~~ yarns are oriented in the length direction at intervals of 0.1 to 5 mm in the ~~uni-directional sheet or~~ uni-directional woven fabric.

15. A complex fiber reinforcing material according to any one of Claims 1 to 3, wherein the carbon fiber reinforcing material comprises a bi-directional woven fabric comprising ~~reinforcing~~ carbon fiber yarns oriented in a length

direction and a width direction of the material to form a woven structure.

16. A complex fiber reinforcing material according to Claim 15, wherein the carbon fiber ~~reinforcing~~ yarns of the bi-directional woven fabric, which are oriented in at least one of the length direction and the width direction, are flat carbon fiber ~~reinforcing~~ yarns having a width in the range of 4 to 30 mm, and a thickness in the range of 0.1 to 1.0 mm.

17. A complex fiber reinforcing material according to any one of Claims 1 to 3, wherein the fiber reinforcing material comprises a stitch cloth comprising at least two groups of reinforcing yarns which are crossed each other and which are stitched with a stitch yarn.

~~18. A complex fiber reinforcing material according to any one of Claims 1 to 3, wherein the reinforcing fibers are carbon fibers.~~

18. A complex fiber reinforcing material according to any one of Claims 1 to 3, wherein the carbon fibers having a tensile modulus of 200 GPa or more, and a tensile strength of 4.5 Ga or more.

19. A complex fiber reinforcing material according to any one of Claims 1 to 3, wherein the non-woven fabric has a void ratio of 30 to 95% of the total area of the non-woven fabric.

20. A complex fiber reinforcing material according to Claim 2, wherein the amount of the pressure sensitive adhesive used is 1 to 10 g/m^2.

21. A preform comprising a laminate of a plurality of the complex fiber reinforcing material according to any one of Claims 1 to 3, wherein the plurality of the complex fiber reinforcing material are laminated such that the carbon fiber reinforcing material and the non-woven fabric are located alternately ~~laminated~~.

22. A preform according to Claim 21, wherein the fiber reinforcing material layers are integrated with each other by heat bonding low-melting-point fibers contained in the non-woven fabric.

23. A preform according to Claim 21, wherein the fiber reinforcing material layers are integrated with each other by a pressure sensitive adhesive.

24. A method of producing a fiber reinforced plastic comprising covering a preform according to any one of Claims 1 to 3 with a bag film, injecting a resin into the bag film in a vacuum state to impregnate the complex fiber reinforcing material with the resin, and curing the resin.

25. A method of producing a fiber reinforced plastic comprising setting a preform according to any one of Claims 1 to 3 in a cavity formed by a he-mold and a she-mold, injecting a resin into the cavity in a vacuum state to

impregnate the complex fiber reinforcing material with the resin, and curing the resin.